



KAMPALA PRIMARY EXAMINATION BOARD PRE - PLE SET II EXAMINATION -2024 PRIMARY SEVEN -MATHEMATICS PAPER

Time Allowed: 2 Hours 30 Minutes

Index No.	Random No.	Personal No.
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Candidate's Name: TR. DANIEL (0761052566)

Candidate's Signature:

Random No:

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DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

Read the following instructions carefully.

1. This paper has two sections: A and B.
2. Section A has 20 questions (40 marks).
3. Section B has 12 questions (60 Marks)
4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or *ink*. Only diagrams and graph work must be done in *pencil*.
6. Unnecessary *alteration* of work will lead to loss of marks.
7. Any *handwriting* that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the boxes indicated:
"FOR EXAMINER'S USE ONLY"

For Examiner's Use Only;		
Qn. No.	MARKS	EXR'S
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TOTAL		

SECTION A: 40 MARKS

1. Workout: $134 + 65$

$$\begin{array}{r} 134 \\ + 65 \\ \hline 199 \end{array} \quad \text{soln} \quad : 134 + 65 = 199$$

2. Write 54,054 in words.

Millions	Thousands	Units
H	T	H
I	O	I
S	4	5

Fifty-four thousand, fifty-four

$$54,054 =$$

Fifty-four thousand, fifty-four

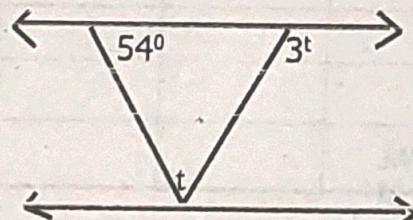
3. Given that $m=2$, $n=1$. Find the value of $m^3 - 2n$

$$\begin{array}{l} \text{soln} \\ m=2, n=1 \\ m^3 - 2n \\ 2^3 - (2 \times 1) \\ 2 \times 2 \times 2 - (2) \\ 8 - 2 \\ = 6 \end{array} \quad : m^3 - 2n = 6$$

4. Given that: $s\{2, 3, 5, 7, N\}$
 $T=\{1, 3, 5, 7, 9, N\}$. Find $n(T-s)$

$$\begin{array}{l} \text{soln} \\ (T-s) = \{1, 9\} \\ n(T-s) = 2 \end{array}$$

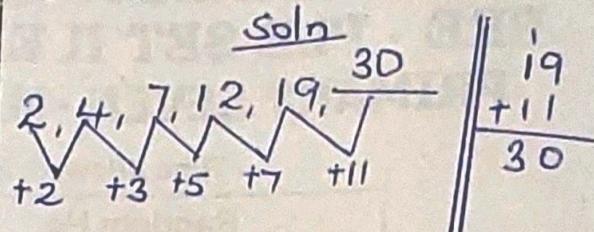
5. Find the value of t in the diagram below.



$$\begin{array}{l} \text{soln} \\ 54^\circ + t = 3t \\ 54^\circ + t - t = 3t - t \\ 54^\circ = 2t \\ \frac{54^\circ}{2} = \frac{2t}{2} \\ t = 27^\circ \end{array} \quad : t = 27^\circ$$

6. Find the next number in the sequence.

$$2, 4, 7, 12, 19, \underline{30}$$



Find the mean of $3r$, $2rf3$ and $r-3$.

$$\begin{array}{l} \text{soln} \\ \text{Mean} = \frac{\text{sum of all items}}{\text{No of all items}} \\ = \frac{3r + (2r+3) + (r-3)}{3} \\ = \frac{3r + 2r + 3 + r - 3}{3} \\ = \frac{3r + 2r + r + 3 - 3}{3} \\ = \frac{6r + 0}{3} \\ = 2r \end{array} \quad : \text{Mean} = 2r$$

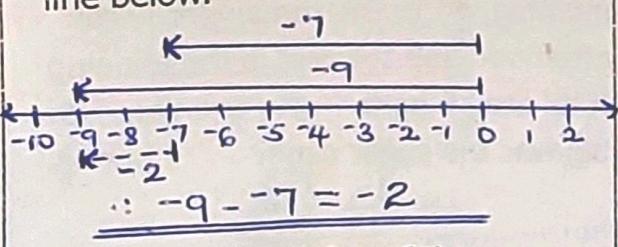
8. Ababy had a cup $\frac{3}{4}$ full of tea, she drank $\frac{2}{9}$ of the tea in the cup. What fraction of the cup remained with tea?

$$\begin{array}{l} \text{soln} \\ \text{Fraction drank} = \frac{2}{9} \text{ of } \frac{3}{4} \\ \text{Remained} = \frac{3}{4} - \frac{1}{6} \\ = \frac{9-2}{12} \\ = \frac{7}{12} \\ : \text{Remained} = \frac{7}{12} \end{array} \quad \begin{array}{l} \text{Remained} \\ = \frac{1}{6} \times \frac{3}{4} \\ = \frac{3}{24} \\ = \frac{1}{8} \\ = \frac{5}{6} \\ : \text{Remained} = \frac{5}{6} \end{array}$$

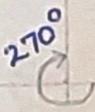
9. A meeting started at 9:15am and took 195 minutes, at what time did it end?

$$\begin{array}{l} \text{soln} \\ \text{From Mins to hrs} \\ 60 \text{ mins} \rightarrow 1 \text{ hr} \\ 195 \text{ mins} \rightarrow \frac{195}{60} \times 1 \text{ hr} \\ \rightarrow 3 \frac{1}{4} \text{ hrs} \\ \text{From ET} = ST + \Delta \end{array} \quad \begin{array}{l} 9:15 \text{ am} \\ + 3:15 \\ \hline 12:30 \text{ pm} \\ : ET = 12:30 \text{ pm} \end{array}$$

10. The cost of three dollars is Ugsh. 10950. How many US dollars will Maria buy with UgSh. 255,500.
Soln
 $\text{Ugsh. } 10950 \rightarrow 3 \text{ USD}$
 $1 \text{ ugsh.} \rightarrow \frac{3 \text{ USD}}{\text{ugsh. } 10950}$
 $\text{ugsh. } 255,500 \rightarrow \frac{3 \text{ USD}}{\text{ugsh. } 10950} \times \text{ugsh. } 255,500$
 $= \frac{3 \text{ USD} \times 255,500}{10950}$
 $= 70 \text{ USD}$
11. Find the perimeter of the figure below. (use $\pi = 3\frac{1}{7}$)

Soln
 $P = \frac{1}{2} \pi D + D$
 $= \left(\frac{1}{2} \times \frac{22}{7} \times 35m \right) + 35m$
 $= (11 \times 5m) + 35m$
 $P = 55m + 35m$
 $= 90m$
 $\therefore P = 90m$
12. Work out $-9 - -7$ using the number line below.

 $\therefore -9 - -7 = -2$
13. State the place value of the underlined digit 40589.
Soln

M	I	H	T	H	T	H	T	D
4	0	5	8	9				

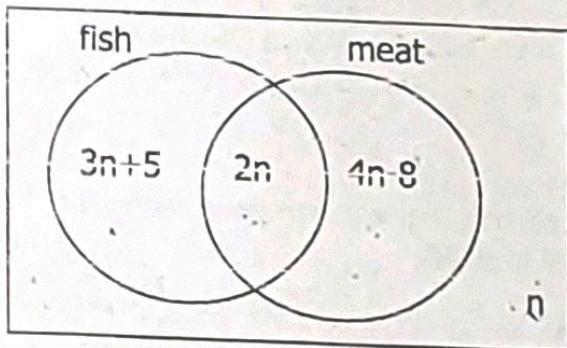
Thousands
14. Using a ruler, a pair of compasses and a pencil only, construct an angle of 270°

15. Simplify: $\frac{3}{4} \div \frac{3}{2}$
Soln
 $\frac{3}{4} \div \frac{3}{2} = \frac{1}{2} \times \frac{2}{1}$
 $\therefore \frac{3}{4} \div \frac{3}{2} = \frac{1}{2}$
 $= \frac{1 \times 1}{2 \times 1}$
16. Simplify: $4t - 7y - 2t + 3y$
Soln
 $4t - 7y - 2t + 3y$
 $4t - 2t - 7y + 3y$
 $2t - 4y$
17. Find the highest common factor of 15 and 36.
Soln
HCF of 15 and 36 = 
 $\therefore \text{HCF} = 3$
18. In a bag there are 4 red pens, 3 blue pens and 5 green pens. Find the probability of picking either a red pen or a green pen.
Soln
 $n(S) = 4 + 3 + 5 = 12$
 $\text{Prob} = \frac{n(E)}{n(S)}$
 $n(E) = 4 + 5 = 9$
 $\therefore \text{prob} = \frac{9}{12}$
19. Solve for X: $2^x \times 8 = 1$
Soln
 $2^x \times 2^3 = 2^0$
 $2^{x+3} = 2^0$
 $x+3=0$
 $x+3-3=0-3$
 $x=-3$

- D. A cylindrical tin of radius 7cm has its top removed, if its height is 10cm. Find its total surface area. (use $\pi = \frac{22}{7}$)

Soln

$$\begin{aligned} T.S.A &= 2\pi rh + \pi r^2 \\ &= \left(2 \times \frac{22}{7} \times \frac{1}{2} \times 10\text{cm}\right) + \left(\frac{22}{7} \times 7\text{cm} \times 7\text{cm}\right) \\ &= (44 \times 10\text{cm}^2) + (22 \times 7\text{cm}^2) \\ &= 440\text{cm}^2 + 154\text{cm}^2 \\ &= 594\text{cm}^2 \\ \therefore T.S.A &= 594\text{cm}^2 \end{aligned}$$

1. The venn diagram below shows the number of a P.7 class who eat meat(M) and fish (F)



If 52 pupils eat meat, Find the value of n (2mks)

Soln

$$2n + 4n - 8 = 52$$

$$6n - 8 = 52$$

$$6n - 8 + 8 = 52 + 8$$

$$\frac{1}{6}6n = \frac{60}{6}$$

$$n = 10$$

$$\therefore n = 10$$

- b. Find the total number of pupils in the class. (2mks)

Soln

$$\begin{aligned} n(E) &= 3n + 5 + 2n + 4n - 8 + n \\ &= (3 \times 10) + 5 + (2 \times 10) + (4 \times 10) - 8 + 10 \\ &= 30 + 5 + 20 + 40 + 10 - 8 \\ &= 105 - 8 \\ &= 97 \end{aligned}$$

\therefore There are 97 pupils in the class

Workout the number of pupils who don't eat fish at all. (1mks)

Soln

$$\begin{array}{c|c} 4n - 8 + n & 40 + 10 - 8 \\ (4 \times 10) - 8 + 10 & 50 - 8 \\ 40 - 8 + 10 & = 42 \text{ pupils} \end{array}$$

22.

$$\text{Simplify } \frac{1+1}{2 \cdot 4} \div \frac{3 \times 3}{10} \quad (3 \text{mks})$$

$$\begin{array}{c|c} \cancel{(1+1)} \div \cancel{(3 \times \frac{3}{10})} & \frac{1}{2} \times \frac{3}{4} \\ \cancel{2 \times 4} & \cancel{\frac{3}{2}} \times \cancel{\frac{10}{3}} \\ 2+1 \div \cancel{3 \times 1} & = 1 \times 5 \\ 4 & \cancel{10} \\ \frac{3}{4} \div \frac{3}{10} & = \cancel{2} \times \cancel{1} \\ \cancel{10} \cancel{3} & = \cancel{2} \cancel{1} \\ & = 2 \end{array}$$

23.

A pupil ate $\frac{3}{7}$ of a sugar cane in the morning, $\frac{2}{5}$ of the remainder in the afternoon and the rest in the evening. If he ate 18 parts in the evening, How big was the sugar cane? (5marks)

$$\text{Morning} = \frac{3}{7}$$

$$\frac{8+15}{35} = \frac{23}{35}$$

$$\text{Remainder} = \frac{7-3}{7} = \frac{4}{7}$$

$$\text{Evening} = \frac{35-23}{35} = \frac{12}{35}$$

$$\text{Afternoon} = \frac{2}{5} \times \frac{4}{7} = \frac{8}{35}$$

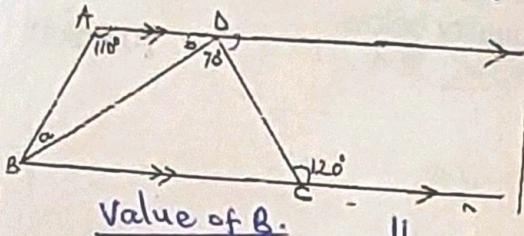
$$12 \text{ parts} \rightarrow 18$$

$$\text{Total} = \frac{8}{35} + \frac{3}{7}$$

$$1 \text{ part} \rightarrow \frac{18}{12} = \frac{18}{35}$$

$$35 \text{ parts} \rightarrow \frac{18}{12} \times 35 = 52.5 \text{ parts}$$

24. Find the value of a and b in the diagram below. (05mks)



Value of B.

$$b + 70^\circ = 120^\circ$$

$$b + 70^\circ - 70^\circ = 120^\circ - 70^\circ$$

$$\underline{b = 50^\circ}$$

OR.

$$b + 70^\circ + 60^\circ = 180^\circ$$

$$b + 130^\circ = 180^\circ$$

$$b + 130^\circ - 130^\circ = 180^\circ - 130^\circ$$

$$\underline{b = 50^\circ}$$

Value of a

$$a + b + 110^\circ = 180^\circ$$

$$a + 50^\circ + 110^\circ = 180^\circ$$

$$a + 160^\circ = 180^\circ$$

$$a = 180^\circ - 160^\circ$$

$$\underline{a = 20^\circ}$$

15. Odongo left Kampala at 8:30am and drove at a speed of 100km/hr reaching Karuma at 10:30am. He rested at Karuma for 30minutes. He left Karuma for Gulu at a speed of 80km/hr for one hour and 30 minutes.
a.). For how long did he take to drive from Kampala to Karuma. (01mk)

$$\Delta = 10:30 \text{ am} \\ - 8:30 \text{ am}$$

2:00

\therefore He took 2 hours

- b). Find the average speed for Odongo to cover the whole journey.

Soln

$$Av\ s = \frac{\Delta}{TTT}$$

$$= \frac{Km}{T} \\ Km \text{ to Karuma} \\ S = 100 \text{ Km/hr} \\ T = 2 \text{ hrs} \\ \Delta = S \times T \\ = 100 \text{ Km} \times 2 \\ = 200 \text{ Km}$$

Karuma to Gulu

$$T = 1\frac{1}{2} \text{ hr} \\ S = 80 \text{ Km/hr} \\ \Delta = S \times T \\ = 80 \times \frac{3}{2} \text{ Km} \\ = 120 \text{ Km}$$

$$TTT = 2 \text{ hrs} + 1\frac{1}{2} \text{ hrs} + 1\frac{1}{2} \text{ hr}$$

$$= 2 \text{ hrs} + 1 \text{ hr} + \frac{3}{2} \text{ hr}$$

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$$\Delta = 200 \text{ Km} + 120 \text{ Km}$$

$$\frac{4+1+3 \text{ hrs}}{2} \\ = 8 \text{ hrs} \\ = 4 \frac{1}{2} \text{ hrs}$$

- Muwonge planted 66 poles around a circular pond. Each pole was placed at an interval of 40metres a part. Calculate the diameter of the circular pond ($\pi = \frac{22}{7}$) (05mks)

Soln

$$\text{Distance} = 66 \times 40 \text{ m} \\ = 2640 \text{ m}$$

Distance = Circumference

$$\therefore C = \pi D$$

$$2640 \text{ m} = \frac{22}{7} \times D$$

$$\frac{7 \times 22D}{7} = 2640 \times 7 \text{ m}$$

$$22D = 18480 \text{ m}$$

- A box of mangoes weighs 20.25kg. The empty box weighs 2.25kg. If each mango weighs 30grams. How many mangoes are in the box? (04mks)

Soln

$$\text{Mangoes weight} = 20.25 \text{ kg} \\ - 2.25 \text{ kg} \\ \underline{18.00 \text{ kg}}$$

$$\underline{= 18 \text{ kg}}$$

From Kg to g

$$1 \text{ kg} = 1000 \text{ g}$$

$$18 \text{ kg} = 18 \times 1000 \text{ g} \\ \underline{= 18000 \text{ g}}$$

$$\text{No of Mangoes} = \frac{6}{18000 \text{ g}}$$

$$\frac{6}{18000} \\ \underline{= 600}$$

$$= 600 \text{ mangoes}$$

\therefore There are 600 Mangoes

$$\Delta = 200 \text{ Km} + 120 \text{ Km} \\ = 320 \text{ Km} \\ Av\ s = \frac{320 \text{ Km}}{4 \frac{1}{2} \text{ hrs}} \\ \underline{Av\ s = 80 \text{ Km/hr}}$$

$$\frac{22D}{22} = \frac{18480}{22} \\ D = 840 \text{ m}$$

$$\therefore \text{Diameter} \\ = 840 \text{ m}$$

2r

at
ea?

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end?

n
m

: 30PM

2

- b). 7 books cost sh. 10500. Find the cost of 4 similar books. (2mks)

Soln

$$\begin{aligned} 7 \text{ books} &\rightarrow \text{sh. } 10,500 \\ 1 \text{ book} &\rightarrow \frac{\text{sh. } 10,500}{7} \\ &= \text{sh. } 1500 \\ 4 \text{ books} &\rightarrow \frac{\text{sh. } 10,500 \times 4}{7} \\ &= \text{sh. } 1500 \times 4 \\ &= \text{sh. } 6000 \\ \therefore 4 \text{ books} &\text{ cost sh. } 6000 \end{aligned}$$

28. a). Solve for P; (03mks)

$$\frac{1p - 3}{2} = p + 1$$

Soln

$$\frac{1p - 3}{2} = p + 1$$

$$LCD = 2$$

$$\cancel{2} \times \cancel{p} - 3 \times 2 = 2(p+1)$$

$$p - 6 = 2p + 1 \times 2$$

$$p - 6 = 2p + 2$$

$$p - 2p = 2 + 6$$

$$\frac{-p}{-1} = \frac{8}{-1}$$

$$p = -8$$

OR

$$\frac{p}{2} - 3 + 3 = p + 1 + 3 \quad \left| \begin{array}{l} \cancel{p} \\ \cancel{3} \end{array} \right. \quad \left| \begin{array}{l} \cancel{p} \\ \cancel{3} \end{array} \right. \quad \frac{-p}{-1} = \frac{8}{-1}$$

$$\frac{p}{2} = (p+4)$$

$$\cancel{2} \times \frac{p}{\cancel{2}} = 2(p+4)$$

$$p = 2p + 8$$

$$p - 2p = 8$$

$$p = -8$$

$$\therefore p = -8$$

b.

- Find the solution set for the inequality below.

$$2(t+3) \leq 3t - 4$$

Soln

$$2(t+3) \leq 3t - 4$$

$$2t + 6 \leq 3t - 4$$

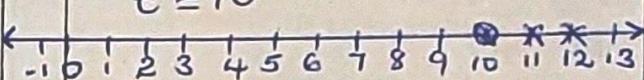
$$2t - 3t \leq -4 - 6$$

$$\frac{-t}{-1} \leq \frac{-10}{-1}$$

$$t \geq 10$$

$$\frac{-t}{-1} \geq \frac{-10}{-1}$$

$$t \geq 10$$



\therefore The solution set for t is $\{10, 11, 12, \dots\}$

29. a) Find the product of the place value of 4 and the value of 2 in the number 2548 (2mks)

Soln

2 5 4 8
Tens

$$\begin{aligned} \text{Thousands} &= 2 \times 1000 \\ &= 2000 \end{aligned}$$

$$\text{Product} = 2000 \times 10$$

$$= 20,000$$

Workout: (02mks)

$$\begin{array}{r} 1010 \\ \underline{- 344} \\ \hline 666 \end{array}$$

Soln

$$\begin{array}{r} 1010 \\ - 344 \\ \hline 666 \end{array}$$

= 666

- b. A business man had 70 Usdolars travelled to Kenya for shopping, how much money in Kenyan shillings did he get? (03mks)

Soln

$$1 \text{ USD} = \text{Ugsh. } 3520$$

$$\begin{aligned} 70 \text{ USD} &= 70 \times \text{Ugsh. } 3520 \\ &= \text{Ugsh. } 246400 \end{aligned}$$

$$\begin{aligned} \text{Ugsh. } 35 &= 1 \text{ Ksh. } \frac{7040}{35} \\ \text{Ugsh. } 246400 &= \frac{246400 \times 1 \text{ Ksh. }}{35} \\ &= \underline{\underline{7040 \text{ Ksh. }}} \end{aligned}$$

Given that.

$$\text{Us\$1} = \text{Ugsh. } 3520$$

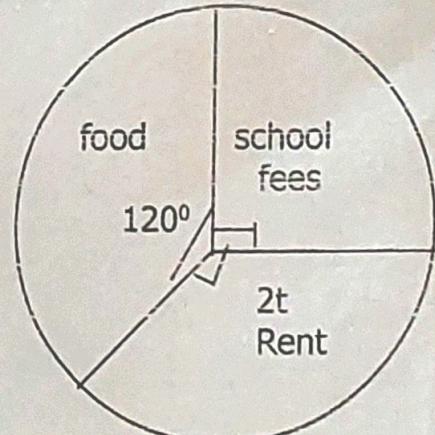
$$\text{Ksh1} = \text{Ugsh35}$$

Peter has Us\\$150. How much money in Ugandan shillings does he have? (2mks)

Soln

$$\begin{aligned} 1 \text{ USD} &\rightarrow \text{Ugsh. } 3520 \\ 150 \text{ USD} &\rightarrow \frac{150}{1 \text{ USD}} \times \text{Ugsh. } 3520 \\ &= 150 \times \text{Ugsh. } 3520 \\ &= \underline{\underline{\text{Ugsh. } 528,000}} \end{aligned}$$

31. The pie chart below shows how a man spends his monthly salary.



- a. Find the value of t. (2mks)

Soln

$$120^\circ + 90^\circ + 2t = 360^\circ$$

$$210^\circ + 2t = 360^\circ$$

$$210^\circ - 210^\circ = 3$$

$$2t = 360^\circ - 210^\circ$$

$$\frac{2t}{2} = \frac{150^\circ}{2}$$

$$t = 75^\circ$$

- b. If he spends sh.36000 more money on rent than food, Find the man's salary (03mks)

Soln

$$\text{Rent} = 150^\circ$$

$$\text{Food} = 120^\circ$$

$$\Delta \text{Diff} = 150^\circ - 120^\circ \\ = 30^\circ$$

Let his salary be y .

$$30^\circ \text{ of } y = \text{sh. } 36000$$

$$\frac{30}{360} \text{ of } y = \text{sh. } 36000$$

$$\frac{1}{12}xy = \text{sh. } 36000$$

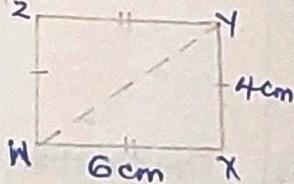
$$\frac{xy}{12} = \text{sh. } 36000 \times 12$$

$$y = \text{sh. } 432000$$

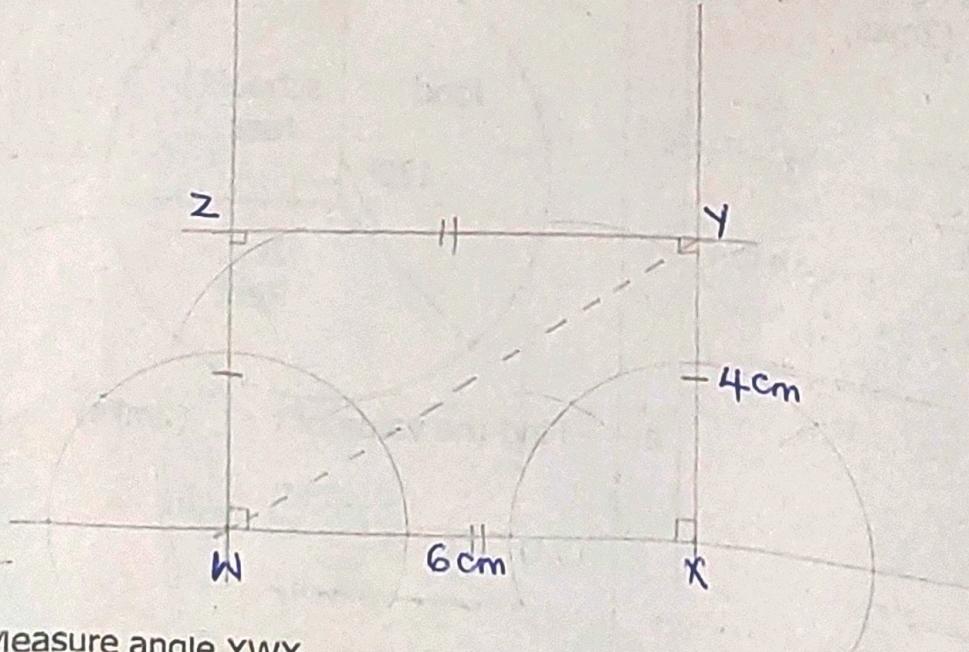
\therefore His salary is sh. 432,000

- 32a Using a pair of compasses, a ruler and a pencil only construct a quadrilateral WXYZ such that $WX = 6\text{cm}$ and $YX = 4\text{cm}$. (4mks)

Sketch



Accurate drawing



Measure angle YWX .

$$\underline{\angle YWX = 45^\circ}$$

(1mk)

GOOD LUCK !

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